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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,997	02/02/2006	Michael Heckmeier	MERCK-3119	9634

23599 7590 09/27/2007

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EXAMINER	
WU, SHEAN CHIU	

ART UNIT	PAPER NUMBER
1756	

MAIL DATE	DELIVERY MODE
09/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/566,997	HECKMEIER ET AL.	
	Examiner	Art Unit	
	Shean C. Wu	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/2/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 10 provides for the use of liquid-crystalline medium, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 10 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4-5, 7 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Andou et al. (US 6,007,740 or 6,187,223).

The reference discloses a compound of formula (1) having a difluoromethyl ether group, which has good liquid crystal properties. The reference liquid crystal composition comprising a compound of formula (1) is useful for liquid crystal display devices. The formula (1) reads on the present formula IA and the present formula I is encompassed by the reference formula (3). The reference example 32 anticipates the claimed invention.

Use Example 32

3-HHHCF2OB(F,F)—F	2.0%
3-HHHCF2OB(F,F)—OCF3	2.0%
3-HHHCF2OB(F,F)—CF3	2.0%
3-HHHCF2OB(F,F)—OCF2H	2.0%
7-HB(F,F)—F	13.0%
3-H2HB(F,F)—F	12.0%
4-H2HB(F,F)—F	10.0%
5-H2HB(F,F)—F	10.0%
3-HHB(F,F)—F	10.0%
4-HHB(F,F)—F	5.0%
3-HH2B(F,F)—F	13.0%
3-HBB(F,F)—F	15.0%
3-HHBB(F,F)—F	4.0%

3-HHHCF2OB(F,F)—F	2.0%	present formula I
3-HHHCF2OB(F,F)—OCF3	2.0%	
3-HHHCF2OB(F,F)—CF3	2.0%	
3-HHHCF2OB(F,F)—OCF2H	2.0%	
3-HHB(F,F)—F	10.0%	I & II
4-HHB(F,F)—F	5.0%	
7-HB(F,F)—F	13.0%	II

3-H2HB(F,F)—F	12.0%	III
4-H2HB(F,F)—F	10.0%	
5-H2HB(F,F)—F	10.0%	
3-HH2B(F,F)—F	13.0%	V
3-HBB(F,F)—F	15.0%	IV

5. Claims 1, 2, 4-5, 7 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyairi et al. (US 6,497,929).

The reference discloses a compound of formula (2-6) having a difluoromethyl ether group, which has good liquid crystal properties. The reference liquid crystal composition comprising a compound of formula (2-6) is useful for liquid crystal display devices. The formula (2-6) reads on the present formula IA. The reference comparative examples 1-2 anticipate the claimed invention.

Comparative example 1

3-B(F)CF2OBB(F,F)-F	5%
3-HB(F)CF2OBB(F,F)-F	5%
3-HBBCF2OB(F,F)-F	5%
2-HHB(F)-F	17%
3-HHB(F)-F	17%
5-HHB(F)-F	6%
2-H2HB(F)-F	10%
3-H2HB(F)-F	5%
5-H2HB(F)-F	10%
2-HBB(F)-F	6%
3-HBB(F)-F	6%
5-HBB(F)-F	3%

Comparative example 2

3-B(F)CF2OBB(F,F)-F	5%
3-HB(F)CF2OBB(F,F)-CF3	3%
3-HB(F)CF2OBB(F,F)-F	4%
3-H2HB(F,F)-F	7%
5-H2HB(F,F)-F	8%
3-HHB(F,F)-F	10%
4-HHB(F,F)-F	5%
3-HH2B(F,F)-F	9%
3-HBB(F,F)-F	15%
5-HBB(F,F)-F	15%
3-HBEB(F,F)-F	2%
4-HBEB(F,F)-F	2%
5-HBEB(F,F)-F	2%
3-HHEB(F,F)-F	10%
4-HHEB(F,F)-F	3%

6. Claims 1, 2, 4-5 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeshita et al. (US 6,325,949 or US 6,315,922).

The reference discloses a compound of formulae (1-1-14)-(1-1-21) having a difluoromethyl ether group, which has good liquid crystal properties. The reference liquid

crystal compositions comprising a compound of formulae thereof are useful for liquid crystal display devices. The reference formulae read on the present formula IA. The reference examples 7-9 anticipate the claimed invention.

Example 7

3-B (F, F) CF2OBB (F) -OCF3	5%
2-BB (F, F) CF2OB (F, F) -F	10%
3-BB (F, F) CF2OB (F, F) -F	7%
3-BB (F, F) CF2OB (F) -OCF3	10%
3-HB (F, F) CF2OB (F, F) B (F) -F	7%
3-HBB (F, F) CF2OB (F) -F	12%
3-HBB (F, F) CF2OB (F, F) -F	10%
5-HBB (F, F) CF2OB (F, F) -F	10%
3-BB (F, F) CF2OB (F, F) B (F) -F	7%
3-BB (F, F) CF2OB (F, F) B (F) -OCF3	7%
3-BB (F, F) CF2OBB (F) -OCF3	7%
as the component B:	
2-HBB (F) -F	4%
3-HBB (F) -F	4%
as the other component:	
Cholesteryl nonanoate	0.27%

present IA-2 (claim 2)
IA-3

Example 8

2-HBB (F, F) CF2OB (F, F) -F	10%
3-HBB (F, F) CF2OB (F, F) -F	10%
2-BBB (F, F) CF2OB (F, F) -F	5%
5-BBB (F, F) CF2OB (F, F) -F	5%
as the component B:	
2-HBB (F) -F	5%
3-HBB (F) -F	5%
5-HBB (F) -F	10%
3-HBB (F, F) -F	7%
5-HBB (F, F) -F	7%
as the component C:	
5-HBB (F) B-2	7%
5-HBB (F) B-3	7%
as the other components:	
3-HB-O2	10%
7-HB-CL	3%
4-HHB-CL	3%
3-HH-4	6%
CM-43L	0.21%

→ present B-1 (claim 8)

Example 9

3-BB (F, F) CF2OB (F, F) -F	5%
2-HBB (F, F) CF2OB (F, F) -F	5%
3-HBB (F, F) CF2OB (F, F) -F	10%
2-BBB (F, F) CF2OB (F, F) -F	5%
3-BBB (F, F) CF2OB (F, F) -F	5%
as the component B:	
3-HBB (F) -F	10%
5-HBB (F) -F	10%
3-HBB (F, F) -F	7%
5-HBB (F, F) -F	7%
as the component C:	
5-HBB (F) B-2	7%
5-HBB (F) B-3	7%
as the other components:	
3-HB-O2	6%
3-HHB-F	3%
3-HHB (F) -F	4%
3-HHB (F, F) -F	4%
3-HHB-1	5%
CM-43L	0.10%

→ RV (claim 8)

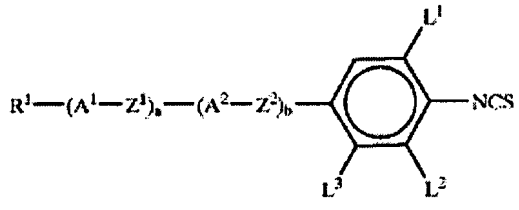
7. Claims 1, 4-5, 7 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Andou et al. (US 5,961,881).

The reference discloses a compound of formula (3-2) having a difluoromethyl ether group, which has good liquid crystal properties. The reference liquid crystal composition comprising a compound of formula (3-2) is useful for liquid crystal display devices. The formula (3-2) reads on the present formula IA. The reference example 5 anticipates the claimed invention.

5-HCF2OB(F)-F	2.0%
5-HCF2OB(F)-OCF3	2.0%
2-HHCF2OB(F,F)-F	5.0%
3-HHCF2OB(F,F)-F	5.0%
4-HHCF2OB(F,F)-F	5.0%
5-HHCF2OB(F,F)-F	5.0%
as a second component:	
2-HB(F,F)-F	8.0%
3-H2HB(F,F)-F	7.0%
3-HHB(F,F)-F	10.0%
4-HHB(F,F)-F	5.0%
2-HHBB(F,F)-F	4.0%
3-HHBB(F,F)-F	4.0%
and as a third component:	
3-HHBCF2OB(F,F)-F	2.0%
3-HHBCF2OB(F)-OCF3	2.0%
3-HBCF2OB(F)-OCF3	11.0%
4-HBCF2OB(F)-OCF3	11.0%
5-HBCF2OB(F)-OCF3	12.0%

8. Claims 1 and 3-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch et al. (US 6,723,866).

The reference discloses a liquid-crystalline compounds of the formula I



, which reads on the present formula IA. See the reference compounds of formulae I70 to I87. The reference further teaches that additional compounds of formula II-IX, particularly the compound of formula II, which reads on the present formula I. The present compounds of formulae I-1-I-5 are read by the reference compounds of formulae RI-RVIII (see col. 30 to col. 31). The reference also discloses the present formulae Ea-Ef from col. 24 to col. 25. Also, see col. 27. The present compounds of formulae in the claims are disclosed by the reference. Although the present medium is not exemplified by the reference, it would have been obvious to those skilled in the art to select the compound of formula I containing four rings (formulae I70 to I87) and combine one or more compounds of formula II-IX, RI-RVIII to arrive at the claimed invention.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for

patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims are rejected under 35 U.S.C. 102(e) as being anticipated by Heckmeier et al. (US 2004/0173776).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. See formulae IA, IA-1 to IA-36, II-VI, Ea-Ef and RI-RIX and the examples M1-M6.

11. Claims are rejected under 35 U.S.C. 102(e) as being anticipated by Heckmeier et al. (US 2003/0,234,384 or 2005/0,040,365).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. See formulae I, IA, IA-1 to IA-25, II-VI, Ea-Ed and RI-RIX and the examples M1-M10.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1-11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 7,175,891. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims encompass the claims of US '891.

14. Claims 1-11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 7,105,210. Although the conflicting claims are not identical, they are not patentably distinct from each other because the parts of the claimed subject matters between the present invention and US '210 are the same.

15. Claims 1-11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 7,056,561. Although the conflicting claims are not identical, they are not patentably distinct from each other because the parts of the claimed subject matters between the present invention and US '561 are the same.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shean C Wu/
Shean C Wu
Primary Examiner